



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,114	01/16/2001	Freddie Lin	2008.003	3635
1054 7590 02/20/2008 LEONARD TACHNER, A PROFESSIONAL LAW CORPORATION 17961 SKY PARK CIRCLE, SUITE 38-E IRVINE, CA 92614			EXAMINER SENF, BEHROOZ M	
			ART UNIT 2621	PAPER NUMBER
			MAIL DATE 02/20/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/761,114	Applicant(s) LIN ET AL.	
	Examiner Behrooz Senfi	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-10,12-20,22-27,29-31,39-41 and 43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10,12-20,22-27,29-31,39-41 and 43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/28/2007 has been entered.

Claims 3, 11, 21, 28, 32 – 38, 42 and 44 have been canceled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 2, 4 – 5, 7 – 10, 12 – 14, 16 – 19, 22 – 26, 29 and 30 – 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al (US 5,892,535) in view of Ramaswamy (US 6,546,051).

Regarding claim 1, Allen '535 discloses, apparatus for transmitting video data across a network (i.e. figs. 2 and 27, shows transmission of media/video data across a network), a video input that receives an uncompressed video signal (i.e. figs. 7A - 7B and 24, video encoder receiving uncompressed video data), a video predictive coding module coupled to the video input (i.e. figs. 7B and 24, shows video encoder using

MPEG standard for performing predictive video coding/decoding, col. 5, lines 7 – 56 and col. 15, lines 21 – 23), wherein the video predictive coding module performs video predictive coding on the video signal in real time to create a video predictive coded signal (i.e., figs. 7 A - 7B and 24, shows video encoder using MPEG standard algorithm, thus performs predictive video coding/decoding in real time, col. 5, lines 7 – 56, to create a video predictive coded signal), and a network interface coupled to the video predictive coding module and coupled to the network (i.e. fig. 2, network interface 206a-206c and fig. 27, network interface 3100a – 3100c, coupled to video predictive coding and network), wherein the network interface transmits the video predictive coded signal across the network concurrently with the video predictive coding module performing video predictive coding in real time (i.e. fig. 2, network interface 206a-206c and fig. 27, network interface 3100a – 3100c, shows network interface transmits the video predictive coded signal across the network).

Allen teaches MPEG standard for performing predictive video coding/decoding, but is silent to explicitly show, a delay module coupled to the video input to delay a line of the uncompressed video signal, a subtraction module coupled to the delay module, wherein the subtraction module subtracts a subsequent line of the video signal from the delayed line of the video signal.

Ramaswamy (i.e., fig.1, 100) clearly shows the inside structure of MPEG video data processing including, a delay module coupled to the video input to delay a line of the uncompressed video signal (i.e., fig. 1, buffer 112), a subtraction module coupled to the delay module (i.e., fig. 1, subtraction module 117), wherein the subtraction module

subtracts a subsequent line of the video signal from the delayed line of the video signal (i.e., fig. 1, subtraction module 117, shows the video 102 inputted into a buffer 112, a video signal outputted from the buffer 112 is provided as to a subtraction module 117 and a second input of a MC prediction unit 130 and an output of the MC prediction unit 130 is provided to adder/subtraction module 117, thus subtracts a subsequent line of the video signal from the delayed line of the video signal).

In view of the above, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teaching of Allen and Ramaswamy to dynamically adjust the quantization used to encode a video signal and minimize buffer underflow and overflow, as suggested by Ramaswamy (i.e., col. 2, lines 11 – 13).

Regarding claim 2, the combination of Allen and Ramaswamy teaches, the apparatus for transmitting uncompressed video data according to claim 1, wherein the network comprises at least one of a fast Ethernet network (i.e. Allen, col. 29, lines 43 – 53).

Regarding claim 4, the combination of Allen and Ramaswamy teaches, the apparatus for transmitting uncompressed video data according to claim 1, wherein the delay module comprises a line buffer and wherein the line buffer delays a line of the video signal to create the delayed line of the video signal (i.e., fig. 1, buffer 112).

Regarding claim 5, the combination of Allen and Ramaswamy teaches, further comprising a timing control module coupled to the video input and coupled to the video predictive coding module, wherein the timing control module controls the timing of the

video predictive coding module (i.e., fig. 24, col. 5, lines 40 – 43 and col. 7, lines 45 – 57).

Regarding claim 7, the combination of Allen and Ramaswamy teaches, further comprising an analog to digital converter (Allen, col. 4, lines 10).

Regarding claim 8, the combination of Allen and Ramaswamy teaches, wherein the video predictive coded signal comprises at least one line comprising plurality of pixels (Allen, col. 26, lines 18 – 22).

Regarding claims 9, 18 and 25, the limitations claimed are substantially similar to claim 1, therefore the ground for rejecting claim 1 also applies here. As for the claimed, decoding module, please see (Allen, figs. 7A- 7B, 24 and 33C – 33D).

Regarding claim 10, the limitations claimed are substantially similar to claim 2, therefore the ground for rejecting claim 2 also applies here.

Regarding claim 12, the combination of Allen and Ramaswamy teaches, the apparatus for receiving uncompressed video data according to claim 9, wherein the delay module comprises a line buffer and wherein the line buffer delays a line of the video predictive decoded signal to create a delayed line of the video predictive decoded signal (i.e., fig. 1 of Ramaswamy shows the inside structure of MPEG video encoder, e.g., encoder 714 in fig. 7A of Allen, for receiving uncompressed video data “i.e., output of MPEG video decoder 708 in fig. 7A of Allen”, delay module comprises a line buffer “i.e., buffer 112, thus creates a delayed line of the video predictive decoded signal”).

Regarding claim 13, the limitations claimed are substantially similar to claim 5, therefore the ground for rejecting claim 5 also applies here.

Regarding claim 14, the combination of Allen and Ramaswamy teaches, a clock generation module coupled to the video predictive decoding module (Allen, col. 7, lines 43 – 64) and a memory control module coupled to the video predictive decoding module (Allen, col. 22, lines 27 – 40).

Regarding claim 16, the combination of Allen and Ramaswamy teaches, digital to analog (Allen, col. 21, lines 64).

Regarding claims 17 and 19, the limitations claimed are substantially similar to claims 8 and 2, therefore the ground for rejecting claims 8 and 2 also applies here.

Regarding claims 22 - 24, the combination of Allen and Ramaswamy teaches, synchronization signal (Allen, col. 16, lines 45 – 60).

Regarding claim 26, the limitations claimed are substantially similar to claim 2 above, therefore the ground for rejecting claim 2 also applies here.

Regarding claims 29 - 30, the limitations claimed are substantially similar to claims 22 - 23, therefore the ground for rejecting claims 22 - 23 also applies here.

Regarding claim 31, the combination of Allen and Ramaswamy teaches, receiving step receives a video predictive coded multimedia signal (Allen, figs. 24 and 27).

4. Claims 6, 15, 20 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al (US 5,892,535) in view of Ramaswamy (US 6,546,051) and Smith et al. (US 6,088,732).

Regarding claim 6, the combination of Allen, Ramaswamy teaches, channel allocation module and Ethernet network for transmitting the video predictive coded

signal (Allen, fig. 2, combination of elements 206a – 206c and 212a – 212c and col. 29, lines 43 – 53).

Allen is silent in regards to explicit mention, reserves a channel of the network and transmitting video signal according to the priority of the video signal.

Smith (i.e., figs. 6a and 15, col. 7 – 8, lines 58 – 67 and col. 16, lines 7 – 20) teaches providing a service over a network by determining/monitoring the resource availability according to the priority of the media type.

In view of the above, taking the combined teaching of Allen and Smith as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to the distribution media system of Allen in accordance with the teaching of Smith by monitoring the terminal resources availability and controlling the distribution processing for transmission of media with higher priority, as suggested by Smith (col. 15, lines 7 – 20).

Regarding claims 15, 20 and 26, the limitations claimed are substantially similar to claim 6 above, thus have been analyzed and rejected in the above claim.

5. Claims 39 – 41 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al (US 5,892,535) in view of Ramaswamy (US 6,546,051) and Zhang et al (US 6,181,711).

Regarding claim 39, the combination of Allen and Ramaswamy teaches, switching multimedia data over network and transmission of video and audio data across a network (i.e. figs. 2, 5 and 24, col. 16, lines 45 – 60), performing video predictive coding on the uncompressed multimedia signal to create a video predictive

coded multimedia signal (i.e. figs. 7A - 7B and 24, shows video encoder using MPEG standard for performing predictive video coding/decoding, col. 5, lines 7 – 56 and col. 15, lines 21 – 23), and transmitting the video predictive coded multimedia signal over the network in real time (i.e. fig. 2, network interface 206a-206c and fig. 27, network interface 3100a – 3100c, shows network interface transmits the video predictive coded signal across the network).

Allen '535 teaches distribution network interface for different channels, which would consider the bandwidth of the channel network, but fails to explicitly teach, "channel allocation priority".

Zhang (i.e. col. 15, lines 12 – 31) teaches determining the priority for channel usage, e.g., channel allocation priority.

Taking the combined teaching of Allen and Zhang as a whole, it would have been obvious to one skilled in the art at the time of the invention was made to improve the distributing media system of Allen as taught by Zhang to convert a bit stream of a given bit rate to a different bit rate for reliable transport over communication channels with smaller delay (col. 4, lines 12 – 22 of Zhang). Further,

Allen teaches MPEG standard for performing predictive video coding/decoding, but is silent to explicitly show, delaying a first line of the multimedia signal, and subtracting a second line of the multimedia signal from the delayed first line of the multimedia signal to create the video predictive coded multimedia signal.

Ramaswamy teaches buffer 112 for delaying a first line of the multimedia signal (i.e., fig. 1, buffer 112) and subtraction unit 117 for subtracting a second line of the

multimedia signal from the delayed first line of the multimedia signal to create the video predictive coded multimedia signal (i.e., fig. 1, subtraction module 117, shows the video 102 inputted into a buffer 112, a video signal outputted from the buffer 112 is provided as to a subtraction module 117 and a second input of a MC prediction unit 130 and an output of the MC prediction unit 130 is provided to adder/subtraction module 117, thus subtracts a subsequent line of the video signal from the delayed line of the video signal).

In view of the above, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teaching of Allen and Ramaswamy to dynamically adjust the quantization used to encode a video signal and minimize buffer underflow and overflow, as suggested by Ramaswamy (i.e., col. 2, lines 11 – 13).

Regarding claim 40, the combination of Allen, Ramaswamy and Zhang teaches, wherein the uncompressed multimedia signal comprises at least one of a composite and a digital video signal (Allen, fig. 24).

Regarding claim 41, the combination of Allen, Ramaswamy and Zhang teaches, data packets including a header and a payload (Allen, fig. 22 – 24, packetizing with header and payload).

Regarding claim 43, the limitations claimed are substantially similar to claim 25 above, thus have been analyzed and rejected with respect to the above claim.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Behrooz Senfi whose telephone number is 571-272-7339. The examiner can normally be reached on M-F 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Behrooz Senfi
Examiner
Art Unit 2621

